Assessing Risk of Future Delinquency Among Children Receiving Child Protection Services

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I. INTRODUCTION

Children who experience maltreatment are more likely than other children to be arrested and/or referred for delinquent offenses. Maltreated children are more likely to become delinquent at a younger age, and their risk of delinquency increases as their exposure to violence increases.

In an effort to prevent children who are already involved with the Los Angeles County Department of Children and Family Services (LA DCFS) from becoming involved with the Los Angeles County Probation Department, county managers sought to develop a structured, actuarial assessment to help identify which children served by LA DCFS were most likely to become delinquent. The managers intend to provide additional supports to children who are at high risk of future delinquency. For example, the county may provide wraparound services to meet the specific needs of these high risk children, in an effort to prevent them from becoming delinquent.

This report describes a longitudinal study conducted by the Children's Research Center (CRC) to identify the risk factors for subsequent delinquency, and if possible, construct a screening assessment that classifies children with an open child protective services (CPS) case by the likelihood of future delinquency. The next section examines findings from peer-reviewed literature regarding the needs and characteristics of children involved with both child welfare and juvenile justice systems, and provides more detail about the objectives of the current study. Subsequent sections of the report describe the methodology followed to construct an actuarial assessment that classifies children by risk of delinquency, and review findings of the study. The summary section identifies limitations of the current research and proposes next steps for piloting use of the delinquency screening assessment.

II. BACKGROUND

A. Review of the Literature

Numerous studies confirm that children who experience maltreatment are more likely than other children to be arrested and/or referred for delinquent offenses (Swanston et al., 2003; Widom & Maxfield, 2001; Fagan, 2005; Jonson-Reid & Barth, 2000; Widom & Kaufman, 1999; Lemmon, 1999; English, 1998; Kelley, Thornberry, & Smith, 1997; Widom, 1996; Smith & Thornberry, 1995; Pawasarat, 1991; Zingraff, Leiter, Myers, & Johnsen, 1993). Children who have experienced maltreatment are also more likely to commit offenses as adults (English, Widom, & Brandford, 2002; Fagan, 2005; Mersky & Topitzes, 2010). A National Institute of Justice (NIJ) study showed that maltreated children were 11 times more likely than a matched control group to be arrested, and 2.7 times more likely to be arrested as an adult (English, Widom, & Brandford, 2004). Abused and/or neglected children are more likely to become delinquent at a younger age (Ryan, Herz, Hernandez, & Marshall, 2007; Lemmon, 1999) and more likely to commit a violent offense (English et al., 2002; Widom & Maxfield, 2001; English, 1998; Kelley et al., 1997; Widom, 1996).

The more violence children are exposed to, the more likely they are to become delinquent. For example, children who were maltreated and also witnessed domestic violence were more likely to become delinquent than those children exposed to only one or the other (Chiodo, Leschied, Whitehead, & Hurley, 2008). Children who were chronically maltreated were more likely to be delinquent than children who experienced only one or two incidents of maltreatment (Stewart, Livingston, & Denison, 2008; Ryan & Testa, 2005).

Entering the juvenile justice system may be especially harmful for youth who experience maltreatment. As previously mentioned, abused or neglected youth tend to enter the system at a younger age than other juvenile offenders. In addition, even after controlling for age of first offense, maltreated youth are more likely than other youth to be sentenced to a correctional

facility or other "suitable placement" as opposed to probation (Ryan et al., 2007). Thus, once they become delinquent, maltreated youth tend to more deeply penetrate the juvenile justice system.

Previously maltreated youth who enter the juvenile justice system often have severe treatment needs and pose an elevated risk to public safety. For public agencies, such problems are extremely costly. A child may be initially identified in a child abuse/neglect investigation, and then migrate through an entire spectrum of public agencies including foster care, juvenile justice, income maintenance, and adult corrections (Colman, Mitchell-Herzfeld, Han Kim, & Shady, 2010; Pecora, Kessler, O'Brien, White, & Williams, 2006). The large public and human costs of youth progressing through each of these service systems are compelling reasons to explore early interventions to break this cycle. Recognizing this, the Federal Advisory Committee on Juvenile Justice (FACJJ) recommended that the federal government support research on maltreated children who enter the juvenile justice system, including evaluation of efforts to prevent children's entrance into the juvenile justice system (FACJJ, 2010).

Although children who experience maltreatment are more likely than other children to become delinquent, not all maltreated children commit delinquent offenses. Examining which maltreated children become delinquent, and the factors related to subsequent delinquency, can help agencies target intervention efforts for children at greatest risk. To date, longitudinal studies of children investigated for maltreatment have relied on administrative data and thus focused on case characteristics such as child demographics, maltreatment type, allegation findings (substantiated or not), whether the child or family received services, and foster care placement.

Findings regarding the effect of service delivery on subsequent delinquency have varied. One longitudinal study of 61,542 child maltreatment victims in 10 California counties showed that the proportion of children who experienced a subsequent arrest for a delinquent offense was similar regardless of the type of maltreatment experienced. In addition, maltreatment victims

who did not receive protective intervention services after the maltreatment investigation were no more likely to be incarcerated for delinquency than were children who received services (Jonson-Reid & Barth, 2000). In another study of 37,479 child maltreatment victims in Missouri, non-White children who received protective services were less likely to be incarcerated than those who did not receive services, but service delivery did not affect the likelihood of incarceration among White children (Jonson-Reid, 2002).

Findings to date also indicate that foster care placement has an inconsistent impact on the likelihood of delinquency. In a prospective study of 772 maltreated youth, foster home placement reduced the likelihood of delinquency among females but not males. Multiple placements and residential or group home placements increased the likelihood of delinquency for males but not for females (DeGue & Widom, 2009). A longitudinal study with a larger sample (18,676 children born in 1983 who were victims in one or more substantiated maltreatment investigations) found that children placed in foster care were more likely to become delinquent than were children who remained at home (regardless of gender), and multiple out-of-home placements increased the risk of delinquency for males, but not females (Ryan & Testa, 2005).

The type of foster care placement is sometimes related to the likelihood of delinquency. In the 2004 NIJ study, arrest rates were higher for children placed in non-relative homes than for children removed from caregivers and placed with relatives or kin (English et al., 2004). Another study found that children placed in group homes were more likely to become delinquent compared to a matched cohort of children placed in a traditional foster home (Ryan, Marshall, Herz, & Hernandez, 2008).

Among children who experience maltreatment, the likelihood of delinquency varies by gender and ethnicity. African American youth are more likely to be arrested as a juvenile or adult than are White youth, and males are more likely to be arrested than females (see, for example, DeGue & Widom, 2009, and Ryan & Testa, 2005). Pathways to delinquency may also differ by

gender and/or ethnicity. For example, one longitudinal study of maltreated youth showed that among girls, depression and experiencing harsh discipline significantly increased the likelihood of delinquency, while substance use significantly increased the likelihood of delinquency among boys (Postlethwait, Barth, & Guo, 2010).

B. Enhanced Services for Crossover Youth

In response to these issues, LA DCFS and a number of other jurisdictions developed strategies to identify youth involved concurrently in child welfare and juvenile justice systems. These dual-jurisdiction cases are called "crossover" youth. Once these youth are identified, staff from both child welfare and juvenile justice collaborate to strengthen and focus case planning for the youth and their families. Efforts to better serve crossover youth include more systematic screening and assessment of youth needs and strengths, more effective case management with multidisciplinary teams consulting on treatment plans, and effective supervision of case progress (FACJJ, 2010). This type of multi-system collaboration is likely to improve outcomes for children. For example, maltreated youth may have been exposed to violence or other trauma and thus may have mental health needs that sometimes go untreated by the juvenile justice system (Ford, Chapman, Hawke, & Albert, 2007). Preliminary findings suggest that interagency collaboration improves the likelihood that a child with a mental health problem will receive services (Chiodo et al., 2008).

Similar efforts can and should be developed for maltreated youth *before* they enter the juvenile justice system. Initial opportunities to identify children who might progress from the child welfare system to delinquent or adult offending occur in the child welfare system, making it an ideal place to begin preventive intervention. The question becomes how to design and establish an effective approach. Preventive interventions must be carefully targeted to maximize effectiveness as well as agency resources. This requires systematic assessment of all families and

children receiving ongoing child protective services. In Los Angeles County, DCFS workers conduct an assessment of risk factors and service needs of families and children entering protective services and record their findings in a web-based system that can be linked to administrative case information.

C. Description of the Current Study

LA DCFS is in the initial stages of identifying strategies for effective intervention to prevent the transition of children from child abuse victims to delinquent offenders. The first step of this process was to develop an actuarial screening tool to identify which youth served by LA DCFS are at high risk of becoming delinquent. LA DCFS plans to use this assessment to target an evidence-based approach to case planning and service delivery toward children identified as being high risk of future delinquency, in the hopes of preventing delinquency. In 2010, LA DCFS asked CRC staff to conduct a retrospective, longitudinal study of children investigated for alleged maltreatment who subsequently entered ongoing child welfare services to observe risk factors for subsequent delinquency and construct an actuarial screening assessment that effectively classifies child maltreatment victims by the likelihood of future delinquency. The following sections review the methods and preliminary findings from this study.

III. RESEARCH METHODOLOGY

The primary objective of this study was to examine the number of children served by LA DCFS who subsequently became involved with the Los Angeles County Probation Department (LA CPD). The goals were to (1) identify the characteristics of children at highest risk of becoming delinquent, and (2) if possible, construct a screening assessment that accurately classifies children receiving child protection services by the likelihood of future delinquency.

The study was conducted by matching LA DCFS administrative and structured assessment data to arrest and adjudication records obtained from LA CPD.[1] The sample consisted of children between 7 and 15 years of age with a maltreatment investigation that occurred between April and December 2005 that resulted in an ongoing service case. When a child had more than one CPS referral during the period, the first investigation was retained for the sample.

Analysis was limited to information available in CWS/CMS and assessments completed for each child. The case and child characteristics examined for this longitudinal study included the following:

- Prior CPS history (e.g., prior investigations and substantiated allegations, prior case openings, and prior child removals);
- Structured Decision Making® (SDM) risk assessments completed for the sample referral; and
- SDM® child and family strengths and needs assessments completed for sample referrals that resulted in an open service case.

CRC observed subsequent arrests and adjudications in Los Angeles County for a standardized three-year follow-up period (2006–2008) for each sample child. CRC tested

[1] CRC received probation data, with the county's permission, through the University of Illinois, who has an ongoing partnership with the county.

bivariate relationships between family and child characteristics and the outcomes using Pearson's correlation and/or chi square, and retained those with significant relationships for further analysis and construction of the delinquency screening assessment.

A. Sample Selection

LA DCFS received allegations of abuse and/or neglect for 49,574 children between 7 and 15 years of age during the eight-month sample period (April to December 2005). Workers opened an ongoing service case for 5,036 of these children.

CRC staff further limited the sample by excluding children with one or more arrests prior to the sample referral date and children who were arrested following the sample referral but before the case was opened.[2] These children were excluded because they were already in contact with both LA DCFS and LA CPD prior to the sample service case, and thus were already eligible for enhanced services through DCFS's program for crossover youth.

CRC then selected cases with an SDM risk assessment that was completed during the sample investigation, and a family and child strengths and needs assessment (FSNA/CSNA) that was completed within 120 days of the case opening date. The sample is limited to children with a FSNA/CSNA completed within 120 days to ensure that the information obtained from the assessment reflected child and family needs at the beginning of the CPS case.[3] The final sample consisted of 3,566 children. The following section describes characteristics of sample children and their families and the outcome rates associated with each characteristic.

[2] Children with a delinquency history outside of Los Angeles County, as well as children with prior delinquent offenses that did not result in an arrest, were retained in the sample because they could not be easily identified with available data.

[3] CRC examined the difference in needs identified between CSNAs completed within 120 days of case opening and those completed later in the case and found that, for all family domains and most child need domains, workers identified needs at higher rates earlier in the case (see Appendix D). Additionally, outcome rates did not differ between cases in which the CSNA was completed early in the case compared to those in which one was completed later. Outcome rates for children with an CSNA completed within 120 days of case opening were 7.1% for arrest and 4.5% for adjudication compared to an 8.2% subsequent arrest rate and 4.3% subsequent adjudication rate for children with an CSNA completed more than 120 days following case opening.

B. Characteristics of the Sample by Delinquency Outcomes

Of the 3,566 children in the sample, 7.1% were arrested and 4.5% were adjudicated during the three-year standardized follow-up period. Consistent with the literature reviewed, delinquency rates differed by age, gender, and child characteristics. The following section describes the sample and presents outcome rates for each characteristic examined in the study.

1. Child Demographics by Delinquency Outcomes

Although children in the sample ranged in age from 7 to 15, the majority were 10 years of age or older (see Table 1). Over 60% of sample children were Hispanic/Latino, about 20% were Black/African American, and just over 13% were White/Caucasian. Groups with fewer than 200 children were collapsed into one other/unknown category. Just over half (52.1%) of the sample children were female.

Outcome rates were higher for children 12 years of age and older compared to younger children, and children who were 14 or 15 had higher rates of subsequent adjudication than children who were under the age of 14. Black/African American children were arrested (10.1%) and adjudicated (7.0%) at rates higher than Hispanic/Latino and White/Caucasian children. However, White/Caucasian children (5.3%) were more likely to be adjudicated than were Hispanic/Latino children (3.8%) following arrest. Finally, males had higher rates of subsequent arrest and subsequent adjudication than did females in the study (see Table 1).

Table 1

Child Demographics by Delinquency Outcomes

Characteristic	Total N	Total %	Subsequent Arrest	Subsequent Adjudication
Overall Sample	**3,566**	**100.0%**	**7.1%**	**4.5%**
Child Age[a,b]				
7–9	1,261	35.4%	0.4%	0.2%
10–11	798	22.4%	4.6%	2.5%
12–13	817	22.9%	14.0%	8.4%
14–15	690	19.3%	14.2%	10.0%
Child Ethnicity[a,b]				
Hispanic/Latino	2,200	61.7%	6.6%	3.8%
Black/African American	671	18.8%	10.1%	7.0%
White/Caucasian	471	13.2%	6.8%	5.3%
Other/Unknown	224	6.3%	3.6%	2.2%
Child Gender[a,b]				
Female	1,857	52.1%	5.1%	3.1%
Male	1,709	47.9%	9.4%	6.0%

Note: [a] denotes significant relationship to subsequent arrest ($p \leq .05$) and [b] denotes the same for subsequent adjudication.

2. Sample Referral Characteristics by Delinquency Outcomes

CRC also examined outcome rates by characteristics of the sample referral. Arrest and adjudication rates were similar regardless of allegation type or child removal. However, children who were placed in a group home as a result of the sample referral had outcome rates nearly triple the rate of children placed in other types of out-of-home care and children who were not placed at all. Children who were placed with a guardian also had outcome rates slightly higher than other groups (see Table 2).

Table 2

Sample Referral Characteristics by Delinquency Outcomes

Characteristic	Total N	Total %	Subsequent Arrest	Subsequent Adjudication
Overall Sample	**3,566**	**100.0%**	**7.1%**	**4.5%**
Allegation Type				
Neglect only	1,449	40.6%	7.6%	4.8%
Abuse only	309	8.7%	6.8%	4.5%
Neglect and abuse	1,808	50.7%	6.8%	4.2%
Child Placed Out of Home				
No	2,293	64.3%	7.0%	4.4%
Yes	1,273	35.7%	7.4%	4.7%
Initial Placement Home Type (for Children Who Were Placed)[a]				
Foster family agency	565	44.4%	6.7%	4.1%
Relative/NREFM	412	32.4%	6.6%	4.1%
Foster family home	140	11.0%	8.6%	5.0%
Guardian	29	2.3%	10.3%	6.9%
Group home	25	2.0%	24.0%	20.0%
Other/unknown	102	8.0%	7.9%	5.9%

Note: [a] denotes significant relationship to subsequent adjudication ($p \leq .05$).

3. Child Protective Service History by Delinquency Outcomes

An examination of prior CPS history by delinquency outcomes showed that children with prior CPS involvement had higher outcome rates than did children without prior history. For example, 8.8% of children with a prior investigation for abuse or neglect had a subsequent arrest

and 5.5% were subsequently adjudicated, while only 4.5% of children with no prior CPS history had a subsequent arrest and 3.0% had a subsequent adjudication. Rates for prior abuse and prior neglect investigations were similar between groups. Children with a prior service case had higher rates of arrest and adjudication than did children who did not have a prior open case (see Table 3).

Table 3

CPS History by Delinquency Outcomes

Characteristic	Total N	Total %	Subsequent Arrest	Subsequent Adjudication
Overall Sample	**3,566**	**100.0%**	**7.1%**	**4.5%**
Prior Investigation, Any Type[a,b]				
No	1,387	38.9%	4.5%	3.0%
Yes	2,179	61.1%	8.8%	5.5%
Prior Abuse Investigation[a,b]				
No	2,152	60.3%	5.9%	3.9%
Yes	1,414	39.7%	9.1%	5.4%
Prior Neglect Investigation[a,b]				
No	1,709	47.9%	5.0%	3.0%
Yes	1,857	52.1%	9.0%	5.8%
Prior Substantiated Allegation				
No	2,667	74.8%	6.9%	4.4%
Yes	899	25.2%	7.9%	4.7%
Prior Substantiated Abuse				
No	3,123	87.6%	6.9%	4.5%
Yes	443	12.4%	8.4%	4.1%
Prior Substantiated Neglect				
No	2,927	82.1%	7.1%	4.4%
Yes	639	17.9%	7.4%	4.9%
Prior Open Case[a,b]				
No	2,699	75.7%	6.1%	3.7%
Yes	867	24.3%	10.3%	6.8%
Prior Child Removal				
No	3,353	94.0%	7.0%	4.4%
Yes	213	6.0%	8.9%	6.1%

Note: [a] denotes significant relationship to subsequent arrest ($p \leq .05$) and [b] denotes the same for subsequent adjudication.

4. Risk Assessment Item Scores by Delinquency Outcomes

CRC examined outcome rates for all risk assessment items, and found that rates differed for only a few.[4] For example, consistent with findings shown in Table 3, arrest and adjudication rates were higher for children with more prior investigations and children who had previously received CPS services; 6.2% of children with no prior CPS service history had a subsequent arrest compared to 10.0% of children who had previously received services. Children living in homes where a prior injury resulted from child abuse or neglect (CA/N) also had higher subsequent arrest and adjudication rates. Finally, children with delinquency needs and mental health/behavioral problems were more likely to have subsequent arrests and/or adjudications than children without these characteristics (see Table 4).[5]

[4] Table 4 shows outcome rates for risk assessment items for which significant differences in one or both of the outcomes were found; outcome rates for all risk assessment items are presented in Appendix B. Note that the risk assessments available for this analysis were completed using the 2003 version of the tool; therefore, items may differ from those on the 2007 version.

[5] Note that children with arrest histories and current arrests in Los Angeles County were removed from the sample. However, sample children may have had delinquency histories in other jurisdictions or delinquency issues that did not rise to the level of an arrest.

Table 4

Risk Assessment Items by Delinquency Outcomes

Characteristic	Total N	Total %	Subsequent Arrest	Subsequent Adjudication
Overall Sample	**3,566**	**100.0%**	**7.1%**	**4.5%**
N2. Prior Investigations[a,b]				
None	1,247	35.0%	4.9%	3.1%
One or more, abuse only	735	20.6%	6.1%	3.1%
One or two for neglect	973	27.3%	9.5%	6.2%
Three or more for neglect	611	17.1%	9.2%	6.2%
N3/A3. Household Has Previously Received CPS (Voluntary/Court-ordered)[a,b]				
No	2,715	76.1%	6.2%	3.8%
Yes	851	23.9%	10.0%	6.7%
N5. Age of Youngest Child in the Home[a,b]				
Two or older	2,886	80.9%	7.6%	4.9%
Under two	680	19.1%	5.0%	2.8%
A2. Number of Prior Abuse Investigations[a]				
None	1,704	47.8%	6.0%	4.2%
One	825	23.1%	7.3%	4.0%
Two or more	1,037	29.1%	8.8%	5.3%
A4. Prior Injury to a Child Resulting From Child Abuse/Neglect[a,b]				
No	3,271	91.7%	6.8%	4.2%
Yes	295	8.3%	10.2%	7.8%
A5. Primary Caregiver's Assessment of Incident[b]				
Not applicable	3,014	84.5%	6.8%	4.1%
One or more present	552	15.5%	9.1%	6.7%
Blames child[b]	421	11.8%	9.3%	7.1%
Justifies maltreatment of a child	233	6.5%	8.2%	6.4%
A6. Two or More Incidents of Domestic Violence in the Household[a,b]				
No	2,799	78.5%	7.6%	5.0%
Yes	767	21.5%	5.2%	2.6%
A9. One or More Caregiver(s) Has/Had a Drug and/or Alcohol Problem				
No	2,041	57.2%	7.4%	4.7%
Yes	1,525	42.8%	6.8%	4.3%
Primary—during last 12 months	889	24.9%	7.3%	4.9%
Secondary—during last 12 months	646	18.1%	5.6%	3.9%
Primary—prior to last 12 months	558	15.6%	8.8%	5.4%
Secondary—prior to last 12 months[a]	358	10.0%	3.6%	2.5%
A11. Characteristics of Children in Household[a,b]				
Not applicable	2,784	78.1%	6.1%	3.8%
One or more present	782	21.9%	10.7%	6.8%

Table 4 Risk Assessment Items by Delinquency Outcomes				
Characteristic	**Total N**	**Total %**	**Subsequent Arrest**	**Subsequent Adjudication**
Overall Sample	**3,566**	**100.0%**	**7.1%**	**4.5%**
Delinquency history[a,b]	188	5.3%	14.9%	11.2%
Developmental disability	210	5.9%	6.2%	4.3%
Mental health/behavioral problem[a,b]	502	14.1%	12.2%	7.0%

Note: [a] denotes significant relationship to subsequent arrest ($p \leq .05$) and [b] denotes the same for subsequent adjudication.

5. Family/Child Needs by Delinquency Outcomes

Outcome rates also differed for several family and child characteristics identified on the FSNA or CSNA.[6] Similar to findings on the risk assessment, children with emotional/behavioral needs at the start of the case were more likely to experience a subsequent arrest and adjudication than children who did not. Other child needs that showed significant increased likelihood of arrest and adjudication were family/household relationships, substance abuse, education, peer/adult social relationships, and delinquent behavior (see Table 5).

Table 5 Family/Child Needs by Delinquency Outcomes				
Family/Child Need	**Total N**	**Total %**	**Subsequent Arrest**	**Subsequent Adjudication**
Overall Sample	**3,566**	**100.0%**	**7.1%**	**4.5%**
Family: Domestic Violence[7,b]				
No	2,375	66.6%	7.5%	5.0%
Yes	1,189	33.4%	6.4%	3.4%
Family: Parenting Skills[a]				
No	1,422	39.9%	5.9%	3.9%
Yes	2,144	60.1%	7.9%	4.9%

[6] Table 5 shows outcome rates for FSNA/CSNA items for which CRC found significant differences in one or both of the outcomes; outcome rates for all needs assessment items are presented in Appendix B.

[7] This item was available only on older versions of the FSNA. Two of the FSNAs included in this analysis were completed on a more recent version; therefore, results of this item are not available for those assessments.

Table 5

Family/Child Needs by Delinquency Outcomes

Family/Child Need	Total N	Total %	Subsequent Arrest	Subsequent Adjudication
Overall Sample	**3,566**	**100.0%**	**7.1%**	**4.5%**
Family: Cultural/Community[a]				
No	3,133	87.9%	7.0%	4.5%
Yes	433	12.1%	8.1%	4.6%
Child: Emotional/Behavioral[a,b]				
No	2,838	79.6%	5.7%	3.5%
Yes	728	20.4%	12.8%	8.5%
Child: Family Relationships[a,b]				
No	2,540	71.2%	5.6%	3.5%
Yes	1,026	28.8%	10.8%	6.9%
Child: Substance Abuse[a,b]				
No	3,499	98.1%	6.6%	4.1%
Yes	67	1.9%	34.3%	25.4%
Child: Education[a,b]				
No	2,798	78.5%	5.3%	3.2%
Yes	768	21.5%	13.8%	9.1%
Child: Peer/Adult Social Relationships[a,b]				
No	3,078	86.3%	6.3%	3.9%
Yes	488	13.7%	12.5%	8.2%
Child: Delinquent Behavior[a,b]				
No	3,278	91.9%	5.6%	3.3%
Yes	288	8.1%	25.0%	8.4%

Note: [a] denotes significant relationship to subsequent arrest ($p \leq .05$) and [b] denotes the same for subsequent adjudication.

C. Constructing an Actuarial Delinquency Screening Assessment

The purpose of an actuarial delinquency screening assessment is to classify children by the likelihood of subsequent delinquency based on observed group characteristics. A variety of statistical methods could be applied, but less precise methods of statistical evaluation (including bivariate analyses followed by least squares regression) consistently produce the best classification results (Gottfredson & Gottfredson, 1980; Simon, 1971; Wainer, 1976; Dawes, 1979). For example, the method used by Gottfredson and Gottfredson (1980) selects risk factors

based on their significance in regression models of outcomes. Multiple regression may be referenced for a continuous variable like number of subsequent arrests, and logistic regression is used for dichotomous outcomes like any subsequent arrest or adjudication (yes or no). These simpler methods for constructing a risk assessment consistently produce the best classification results, even when validated on a different sample (Benda, 1987; Silver, Smith, & Banks, 2000; Wilbanks, 1985).

The bivariate and multivariate statistical techniques employed to develop the delinquency screening assessment are summarized below (Wagner, 1992):

1. Simple correlations were computed between each potential item and outcome measures. Items with significant correlations (<.05 level) with any of the outcome measures were selected for further analysis.

2. Cross-tabulations (with a number of associated statistics) were completed to further examine relationships between outcomes and potential delinquency screening assessment items. These analyses helped to determine how item values can best be combined or recoded to maximize the relationship with the various outcome measures.[8]

3. Regression analyses were conducted using multiple outcomes to help identify the best combination of predictive items for inclusion in the delinquency screening assessment. A generous level of significance ($p < .15$) was used when testing covariates for inclusion, based on the recommendations of Bendel and Afifi (1977) and Hosmer and Lemeshow (1989). This will ensure that variables significantly related to or confounding with outcomes will be evaluated as potential factors.

4. A preliminary assessment was developed and cross-tabulated with outcome measures to determine overall predictive capabilities and optimal cut-off points for classification categories. Items may be added and deleted from the assessment during these tests. The best combination of items and item weights is selected for the instrument.

5. Findings for major population subgroups defined by ethnicity and other key characteristics were then examined to determine if the instrument estimates outcomes for these groups.

[8] Most screening assessment items weigh one point, consistent with development of other actuarial assessments (see Burgess, 1928). The only exceptions are prior investigations and prior CPS services, which weigh more because of a stronger relationship to the outcome.

6. Ideally, the delinquency screening assessment would have been applied to a validation sample to examine classification findings with a different sample. However, due to the limitations of data available for all children who were not included in the study sample, a validation sample was not available for this study.

The next section of the report reviews findings for the delinquency screening assessment. The final section provides a context for the findings and describes some key issues to consider when designing a pilot implementation of the assessment.

IV. FINDINGS

A valid actuarial assessment should identify children with progressively higher rates of subsequent delinquency as the classification increases from low to moderate to high. Ideally, the rates between consecutive risk levels maximize the separation between the high and low risk groups, as well as between consecutive groups. In other words, each increase in risk level should correspond to a significant increase in outcomes. The delinquency screening index developed by CRC achieved this level of discrimination. The following section reviews the delinquency screening assessment, the performance of the resulting classification relative to subsequent delinquency, and findings for the assessment classification for key sample subgroups, including gender and ethnicity.

A. The Delinquency Screening Assessment

The delinquency screening assessment, as currently conceived, would be completed for all children age 7–15 for whom a case is opened and who have no prior or current arrests in Los Angeles County. The current plan is to either have workers complete the screening assessment based on information gathered during the investigation, or generate the risk-of-delinquency classification by pulling information from other assessments completed by workers. The

resulting classification could then help LA DCFS target limited resources to children with the greatest likelihood of subsequent delinquency.

Analysis of available data resulted in a delinquency screening assessment composed of 10 factors. Workers would score each item to the best of their knowledge at the time of case opening. Item scores are then summed and translate into low, moderate, or high risk based on the classification cut points. The low, moderate, and high classifications estimate the likelihood that the child will become delinquent based on children with similar characteristics. If the index is accurately classifying children, those classified as high risk should have higher-than-average rates of subsequent arrest and adjudication; those classified as moderate, an average rate of subsequent arrest and adjudication; and low risk children, a lower-than-average rate of subsequent delinquency.

The next page reviews the items that compose the delinquency screening assessment, item weights, and how the classifications derive from the total score. The subsequent section reviews the classification findings by the outcomes observed.

LOS ANGELES COUNTY
SDM® DELINQUENCY SCREENING ASSESSMENT

c: 07/11

Child Name: _____ **Client ID:** _____

Referral ID: _____ **Referral Date:** _____/_____/_____

R1. Prior investigation(s) for abuse or neglect
- a. None 0
- b. One or two 1
- c. Three or more ..... 2 _____

R2. Prior CPS services
- a. None 0
- b. One 1
- c. Two or more ..... 2 _____

R3. Prior injury to any child in the home resulting from child abuse/neglect
- a. No 0
- b. Yes ..... 1 _____

If yes:
☐ Child being assessed ☐ Another child in the home

R4. Child was placed in a group home as a result of investigation that led to current case
- a. No 0
- b. Yes ..... 1 _____

R5. Child age at time of CPS referral that led to current case
- a. 7 to 10 ..... -1
- b. 11 or 12 0
- c. 13 or older ..... 1 _____

R6. Child gender
- a. Female 0
- b. Male ..... 1 _____

R7. Child substance use/abuse
- a. No 0
- b. Yes ..... 1 _____

R8. Child academic difficulty
- a. No 0
- b. Yes ..... 1 _____

R9. Child past or current delinquency
- a. No 0
- b. Yes ..... 1 _____

R10. Child mental health/behavioral issue (any child in the home)
- a. No 0
- b. Yes ..... 1 _____

If yes:
☐ Child being assessed ☐ Another child in the home

Total: _____

Scored Risk Level
-1 to 1 ☐ Low
2 to 4 ☐ Moderate
5+ ☐ High

Preliminary research only: Not to be used without consultation and authorization of NCCD/CRC.

B. Subsequent Delinquency by Assessment Classification Results

Table 6 shows the distribution for each screening level. The delinquency screening index classified 44.9% of children as low risk, 43.4% as moderate risk, and 11.7% of children as high risk for subsequent delinquency.

The delinquency screening assessment effectively classified sampled children by their likelihood of subsequent delinquency. During the standardized three-year follow-up period, 1.6% of low risk, 8.4% of moderate risk, and 23.5% of high risk children were arrested. When the outcome was subsequent adjudication, results were similar. The outcome rate observed during the follow-up period more than doubled with each increase in risk level (see Table 6 and Figure 1).[9]

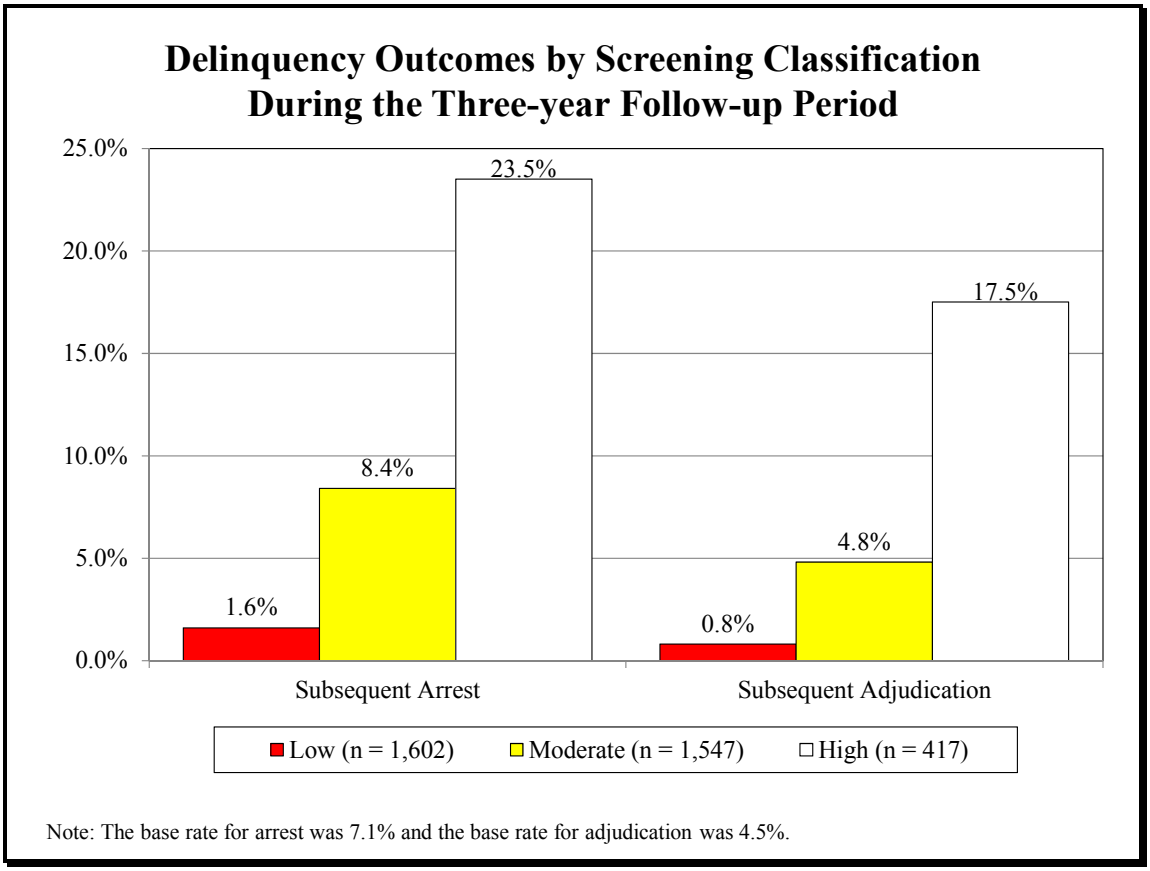
Table 6

Screening Classification by Delinquency Outcomes

Screening Level	Sample Distribution		Delinquency Outcomes During a Standardized Three-year Follow-up Period	
	N	%	Subsequent Arrest	Subsequent Adjudication
Low	1,602	44.9%	1.6%	0.8%
Moderate	1,547	43.4%	8.4%	4.8%
High	417	11.7%	23.5%	17.5%
Total Sample	**3,566**	**100.0%**	**7.1%**	**4.5%**

[9] The increases in the arrest and adjudication outcome rates were statistically significant (z-test of proportions, $p \leq .05$).

Figure 1



Note: The base rate for arrest was 7.1% and the base rate for adjudication was 4.5%.

1. Classification Findings by Child Race/Ethnicity

Table 7 shows classification findings by child race/ethnicity. In the total sample, 43.4% of children were classified as moderate risk and 11.7% as high risk (see Table 6). Hispanic/Latino children had a distribution most similar to the total, which could be expected since they make up the largest proportion of the sample. Nearly half (49.0%) of the Hispanic/Latino children were classified as low risk, 42.1% as moderate risk, and 8.9% as high risk, less than 3% difference from the total. However, the classification of White/Caucasian and Black/African American children, although similar to each other, was different from the total sample and the sample of Hispanic/Latino children. While just over a third of children in these groups were classified as low risk, nearly half were moderate risk and over 15% were classified as high risk.

In spite of the differences in screening level distribution between groups, the delinquency screening index effectively classifies children by their likelihood of subsequent delinquency within each racial/ethnic group. For example, Hispanic/Latino children classified as low risk had a subsequent arrest rate of 1.9%, compared to 8.2% of moderate risk and 25.5% of high risk children. Results were similar among Black/African American and White/Caucasian children, in that an increase in support level corresponded to a significant increase in rates for delinquency outcomes (see Table 7 and Figure 2).[10]

Table 7

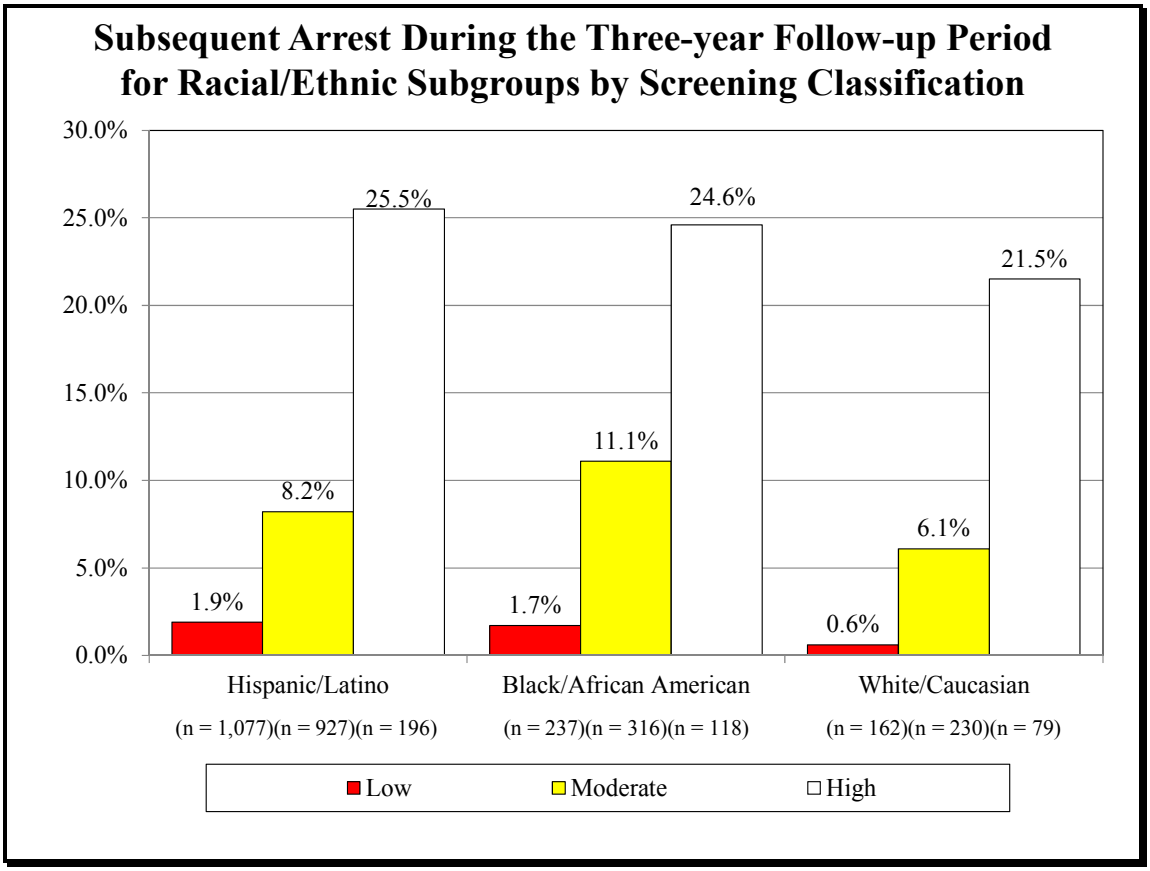
Screening Classification by Child Race/Ethnicity* by Delinquency Outcomes

Screening Level	Sample Distribution		Delinquency Outcomes During a Standardized Three-year Follow-up Period	
	N	%	Subsequent Arrest	Subsequent Adjudication
Total Sample	**3,566**	**100.0%**	**7.1%**	**4.5%**
Hispanic/Latino				
Low	1,077	49.0%	1.9%	0.9%
Moderate	927	42.1%	8.2%	4.2%
High	196	8.9%	25.5%	17.3%
Subtotal	**2,200**	**100.0%**	**6.6%**	**3.8%**
Black/African American				
Low	237	35.3%	1.7%	0.4%
Moderate	316	47.1%	11.1%	7.6%
High	118	17.6%	24.6%	18.6%
Subtotal	**671**	**100.0%**	**10.1%**	**7.0%**
White/Caucasian				
Low	162	34.4%	0.6%	0.6%
Moderate	230	48.8%	6.1%	3.5%
High	79	16.8%	21.5%	20.3%
Subtotal	**471**	**100.0%**	**6.8%**	**5.3%**

*Groups smaller than 400 were not included in this table.

[10] The increases in the arrest and adjudication outcome rates were statistically significant (z-test of proportions, $p \leq .05$).

Figure 2



2. Classification Findings by Child Age

The current study found a strong relationship between an increase in child age and subsequent delinquency; delinquency outcomes increased significantly with child age in this sample. For example, 0.4% of children age 7 to 9 had an arrest during the three-year follow-up period, compared to 4.6% among children age 10 or 11, and 14.0% among children over the age of 12. As a result of this relationship, child age is a factor on the actuarial delinquency screening assessment. Due to the differences in base rates between age groups, and the fact that age is a factor on the risk assessment, CRC examined outcome rates by risk level to ensure that the screening index worked within each age group.

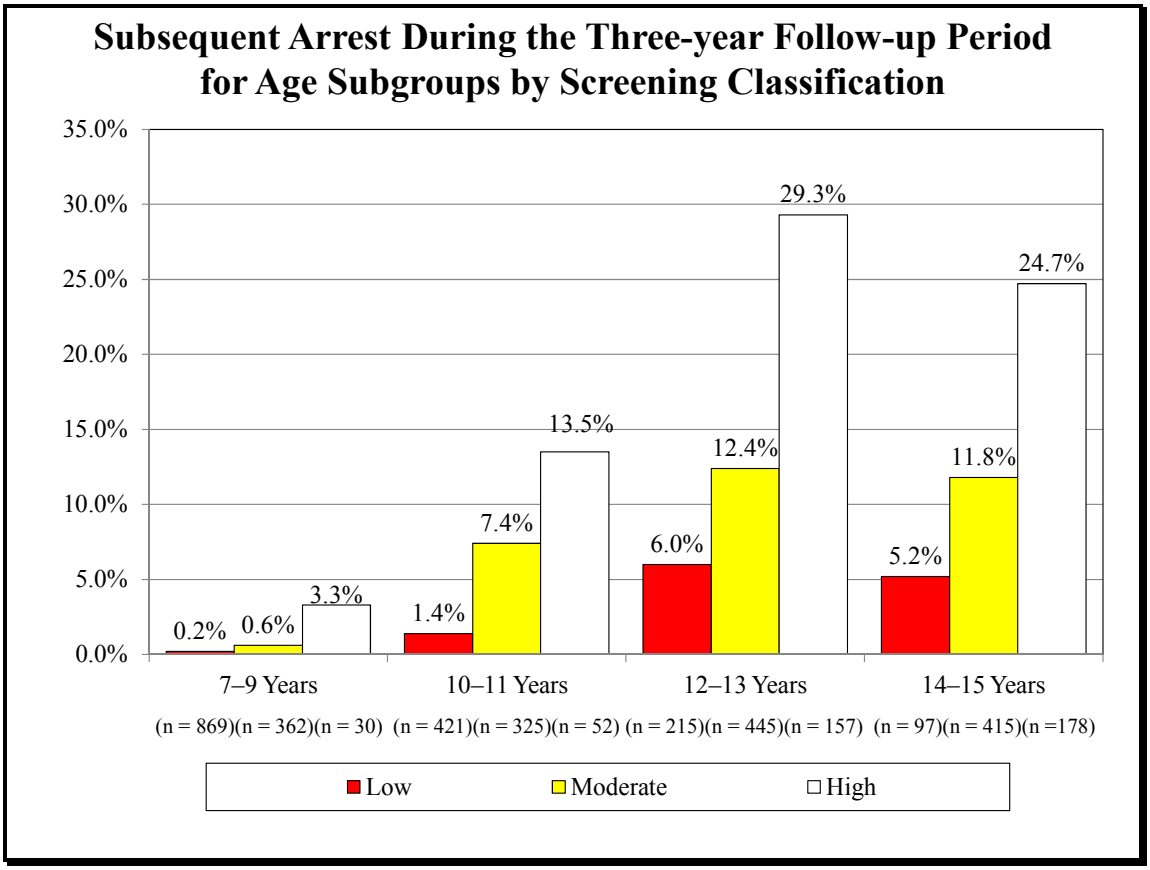
As mentioned above, delinquency outcomes increased with child age. Given this, and that age is an item on the tool, we can expect that older children are more likely to be classified at higher risk levels. For example, only 2.4% of children age 7 to 9 were classified as high risk, compared to 6.5% of children age 10 or 11, 19.2% of children age 12 or 13, and 25.8% of children age 14 or 15 (see Table 8).

Although a higher proportion of older children were classified at higher risk levels, the delinquency screening assessment accurately classifies children in each age group in that the outcome rate increases with each increase in risk level (see Table 8 and Figure 3).[11] However, the outcome rates for moderate risk children over the age of 9 exceeded the outcome rate for high risk children in the 7–9 year old group. For example, the arrest outcome rates for moderate risk, 10–15 year olds range from 7.4% to 12.4% while the outcome rate for high risk 7–9 year olds is only 3.3%. This is due to low overall outcome rates among 7–9 year olds, which makes classifying children into risk levels more difficult among this group. Similarly, the outcome rates for moderate risk children in the 12–13 and 14–15 year old groups (12.4% and 11.8%, respectively) approach but do not exceed the outcome rate for high risk children in the 10–11 year old group (13.5%). As with children in the 7–9 year old group, children in the 10–11 year old group had base rates much lower than those for children over the age of 11, which explains why the outcome rates within each risk level are lower than for 10–11 year olds than for children in the older age groups. For groups with similar base rates (i.e., 12–13 and 14–15 year olds) outcome rates were similar by risk level (see Table 8).

[11] The increases in the arrest and adjudication outcome rates were statistically significant (z-test of proportions, $p \leq .05$) between risk levels for most age groups, with two exceptions. The increase in arrest rates between low and moderate risk groups for 10–11-year-olds and the increase in adjudication rates between moderate and high risk 14–15-year-olds were not significant.

Table 8 Screening Classification by Child Age by Delinquency Outcomes				
Screening Level	**Sample Distribution**		**Delinquency Outcomes During a Standardized Three-year Follow-up Period**	
	N	**%**	**Subsequent Arrest**	**Subsequent Adjudication**
Total Sample	**3,566**	**100.0%**	**7.1%**	**4.5%**
7–9 Years of Age				
Low	869	68.9%	0.2%	0.1%
Moderate	362	28.7%	0.6%	0.3%
High	30	2.4%	3.3%	0.0%
Subtotal	**1,261**	**100.0%**	**0.4%**	**0.2%**
10–11 Years of Age				
Low	421	52.8%	1.4%	0.5%
Moderate	325	40.7%	7.4%	4.0%
High	52	6.5%	13.5%	9.6%
Subtotal	**798**	**100.0%**	**4.6%**	**2.5%**
12–13 Years of Age				
Low	215	26.3%	6.0%	3.3%
Moderate	445	54.5%	12.4%	6.7%
High	157	19.2%	29.3%	20.4%
Subtotal	**817**	**100.0%**	**14.0%**	**8.4%**
14–15 Years of Age				
Low	97	14.1%	5.2%	3.1%
Moderate	415	60.1%	11.8%	7.2%
High	178	25.8%	24.7%	20.2%
Subtotal	**690**	**100.0%**	**14.2%**	**10.0%**

Figure 3



3. Classification Findings by Child Gender

As suggested by the literature, and as supported by findings from this study, sample males were more likely to become delinquent than females. For example, the subsequent arrest rate was 9.4% for males compared to 5.1% for females. Similarly, the subsequent adjudication rate was 6.0% for males compared to 3.1% for females. As with child age, given the strong relationship between being male and subsequent delinquency, and the fact that child gender is an item on the tool, we would expect more males than females to classify as moderate or high risk, which is what the results show. For example, while only 37.3% of females were classified as moderate risk and 8.1% as high risk, half (50.0%) of males were classified as moderate risk and 15.6% were classified as high risk for subsequent delinquency (see Table 9).

Although the delinquency screening assessment classifies more males than females into higher risk levels, the assessment works well for both groups. For both males and females, an increase in risk level corresponds to an increase in the outcome rate for both arrest and adjudication. In addition, outcome rates within risk classifications were similar by gender. For example, 1.7% of females classified as low risk had a subsequent arrest compared to 1.5% of males. Among youth classified as moderate risk, 6.9% of females and 9.6% of males had a subsequent arrest, and among those classified as high risk, 19.3% of females had a subsequent arrest, compared to 25.8% of males. Although outcome rates were slightly higher for males in the moderate and high risk categories, the outcome rate for moderate risk males did not even approach the rate for high risk females. This indicates good distinction between risk levels for both groups (see Table 9).[12]

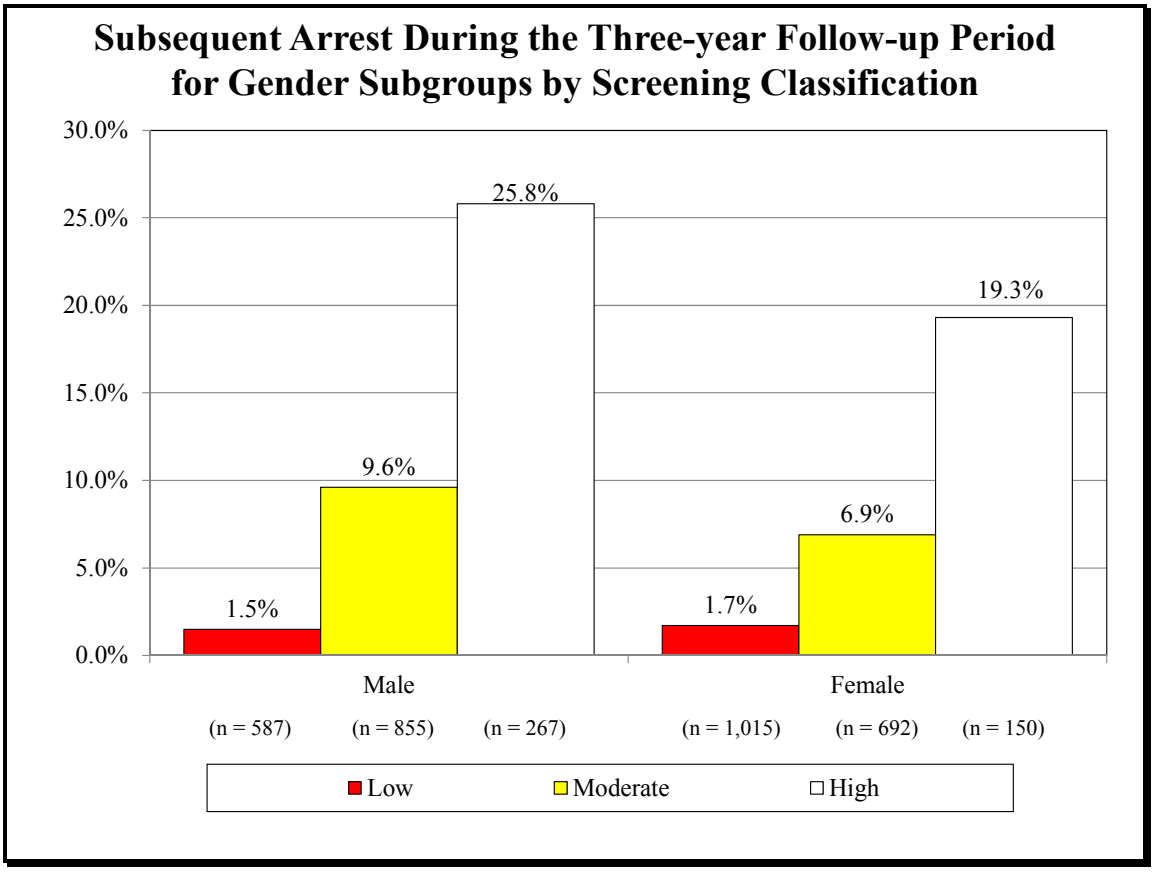
Table 9

Screening Classification by Child Gender by Delinquency Outcomes

Screening Level	Sample Distribution		Delinquency Outcomes During a Standardized Three-year Follow-up Period	
	N	%	Subsequent Arrest	Subsequent Adjudication
Total Sample	**3,566**	**100.0%**	**7.1%**	**4.5%**
Male				
Low	587	34.3%	1.5%	0.3%
Moderate	855	50.0%	9.6%	5.7%
High	267	15.6%	25.8%	19.5%
Subtotal	**1,709**	**100.0%**	**9.4%**	**6.0%**
Female				
Low	1,015	54.7%	1.7%	1.1%
Moderate	692	37.3%	6.9%	3.6%
High	150	8.1%	19.3%	14.0%
Subtotal	**1,857**	**100.0%**	**5.1%**	**3.1%**

[12] The increases in arrest and adjudication outcome rates were statistically significant (z-test of proportions, $p \leq 0.05$).

Figure 4



V. SUMMARY

A. Summary of Findings

This retrospective validation study showed that it is possible to construct an actuarial assessment that accurately classifies children by the likelihood of subsequent delinquency. The resulting delinquency screening assessment is composed of 10 items representing prior CPS history, child demographics, and child and family characteristics that are summed to reach an overall classification indicating risk of future delinquency. All of the assessment items had a strong relationship to subsequent delinquency and are already part of a caseworker's regular and systematic evaluation of child safety and risk.

The delinquency screening assessment works well overall and within different racial/ethnic, age, and gender subgroups. In other words, within each group, the outcome rate

increases with each increase in risk level. However, because some subgroups had higher base rates than others, and because the strong relationship between membership in some subgroups (e.g., males, older children) and the outcomes resulted in an item on the delinquency screening assessment, the proportions of some subgroups classified as moderate or high risk are larger than others.

For example, higher base rates among males and the strong relationship between being male and subsequent delinquency, which resulted in a gender item on the assessment, resulted in 65.6% of males classified as moderate or high risk compared to 45.4% of females. However, outcome rates by risk level between groups were similar, suggesting that children are being classified into the correct risk level, regardless of gender.

Similarly, there was a strong relationship between child age and subsequent delinquency, resulting in a child age item on the assessment. As with the gender item, the higher base rates for older children combined with the item on the risk assessment, resulted in larger proportions of older children in the higher risk classifications relative to younger children. However, the screening classification performed well within each age category, with an increase in outcome rates with each increase in risk level.

LA DCFS is in the initial stages of identifying strategies for effective intervention to prevent the transition of children from child abuse victims to delinquent offenders. The first step in the process was the development of an actuarial assessment to help identify which children served by LA DCFS are at greatest risk of becoming delinquent. The next step is to use assessment findings to target an evidence-based approach to case planning and service delivery toward children identified by the assessment as those at greatest risk.

The county must still determine how and when the assessment will be implemented and how to use assessment findings in practice. The following section outlines some of the study

limitations that should be considered when making these decisions. The last section discusses practice implications related to study findings and limitations.

B. Study Limitations

The delinquency screening assessment was constructed using administrative data available in CWS/CMS and the web-based system used to store structured assessment data. Due to the limitations of administrative data, some characteristics shown to have relationships to subsequent delinquency were not available for inclusion in this study. For example, information regarding depression and harsh discipline was limited to more general items on the structured assessments. It may be possible, depending upon how the assessment is implemented, to capture supplemental data to examine in future validation studies.

Two of the assessment items relate to all children in the household, rather than just the sampled child (e.g., prior injury to any child in the household and child mental health issues). These items originated from the SDM risk assessment, which is completed for a household and cannot be linked to one particular child. These items were significantly related to subsequent delinquency, based on this study's findings. It is not possible, however, to determine whether an injury to the sample child or the sample child having mental health issues increased the likelihood of subsequent delinquency, or if an injury to or mental health diagnosis for any child in the home increased the likelihood.

The observed proportion of children who were subsequently delinquent was relatively low. This may result, in part, from limitations of the study design. For example, outcomes were observed only in Los Angeles County. If some sample children were arrested in another jurisdiction, these data were not captured. If they were, outcome rates may have been higher. Additionally, sample limitations related to prior arrests may have also impacted the outcome rates. CRC excluded 124 children from the sample who had been arrested in Los Angeles County

prior to the sample case opening (note that some of these children were arrested prior to the sample referral, and some were arrested following the sample referral but prior to the sample service case). These children were excluded because they were already in contact with both LA DCFS and LA CPD; in other words, they had already crossed over from one system to the other. As a result, they are currently part of an enhanced services pilot program. The outcome rates for the excluded children were significantly higher than for sampled children (see Appendix D). If these children were retained in the sample, the proportion of children classified as high risk would likely increase.

Delinquency outcome data were only available for three years following the sample time period. Therefore, children who were older (i.e., 12 or older) during the sample period were more likely to have been arrested than were children who were only 7–9 years old. If outcome data had been available for a longer period of time (e.g., 7 to 10 years), the younger children in the sample would have likely had higher recidivism rates.

Another limitation related to child age were the low base rates among children under the age of 10 (0.4% had an arrest and 0.2% were adjudicated during the three-year follow-up period). The low base rates for younger children resulted in base rates for high risk children age 7–9 that were lower than moderate risk outcome rates among all older age groups and lower than low risk base rates for children age 12 or older. In other words, high risk children age 7–9 years have the same or lower likelihood of becoming delinquent in a three-year period as low risk children age 12 years or older.

The study's findings and its limitations can help inform design of a pilot implementation of the delinquency screening assessment. The next section outlines key issues the county may wish to consider when designing the pilot and/or developing policies and procedures for use of the delinquency screening assessment.

C. Practice Implications

Prior to piloting the delinquency screening assessment, the county must determine several things. These include which children the assessment will be completed for, how the assessment will be completed (e.g., on paper, web-based system, or by automated report), and how assessment findings will influence practice.

LA DCFS managers could decide to apply the delinquency screening assessment to the population referenced for assessment design, which includes children age 7–15 who did not have an arrest in Los Angeles County prior to the sample case (i.e., children who had already crossed over). County managers may wish, however, to consider the following:

- Child age: Children under the age of 10 had low base rates; therefore, it was more difficult to determine how well the assessment would work for these children under field conditions. Because of this, the county may consider excluding children under the age of 10 when developing policies for the assessment. However, the assessment, as designed, does distinguish low risk from high risk children in the 7–10 year old group. Therefore, if resources are available, the county may wish to complete the assessment for all children 7–15.

- Prior arrest: As mentioned previously, the study sample excluded children with arrests in Los Angeles County because these children are part of the existing program for crossover youth. If the county decides to have workers complete the assessment on paper, policy can dictate that the assessment not be completed for children who have already "crossed over." If the county decides to implement the assessment as an automated report that calculates a risk-of-delinquency classification by pulling data from existing sources, it may be difficult to identify which children have crossed over in order to exclude them from a list. Due to the high base rates of children who were removed from the sample, including them in an automated report may increase the number of children in the high risk group. It should be noted that the high base rates for children with prior arrests suggest that these children may benefit from wraparound services if they are not already receiving them.

- Missing information: Many of the items on the delinquency screening assessment were taken directly from the SDM risk assessment and the SDM CSNA. If the county decides to implement the assessment as an automated report, it will be important to address how the report identifies cases for which a completed assessment or other case information is missing.

Next steps include design of a pilot program to trial use of the delinquency screening assessment in practice. If possible, LA DCFS may wish to conduct a process and impact evaluation of this pilot to determine whether the caseworkers used the information as intended and whether its use improved outcomes for children. Such an evaluation could also include a validation study, to help ensure that the delinquency screening assessment is accurately classifying children served by DCFS by their likelihood of future delinquency.

Appendix A

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Appendix B

Risk Assessment Items by Delinquency Outcomes

Family and Child Strengths and Needs Assessment Items by Delinquency Outcomes

Table B1

Risk Assessment Items by Delinquency Outcomes[13]

Characteristic	Total N	Total %	Subsequent Arrest	Subsequent Adjudication
Overall Sample	**3,566**	**100.0%**	**7.1%**	**4.5%**
N1. Current Complaint Is for Neglect				
No	1,374	38.5%	6.9%	4.1%
Yes	2,192	61.5%	7.3%	4.7%
N2. Prior Investigations[a,b]				
None	1,247	35.0%	4.9%	3.1%
One or more, abuse only	735	20.6%	6.1%	3.1%
One or two for neglect	973	27.3%	9.5%	6.2%
Three or more for neglect	611	17.1%	9.2%	6.2%
N3. Household Has Previously Received CPS (Voluntary/Court-ordered)[a,b]				
No	2,715	76.1%	6.2%	3.8%
Yes	851	23.9%	10.0%	6.7%
N4. Number of Children Involved in the Child Abuse/Neglect Incident				
One, two, or three	2,413	67.7%	7.5%	4.7%
Four or more	1,153	32.3%	6.4%	4.0%
N5. Age of Youngest Child in the Home[a,b]				
Two or older	2,886	80.9%	7.6%	4.9%
Under two	680	19.1%	5.0%	2.8%
N6. Primary Caregiver Provides Physical Care Inconsistent With Child Needs				
No	2,716	76.2%	7.0%	4.2%
Yes	850	23.8%	7.4%	5.4%
N7. Primary Caregiver Has a History of Abuse or Neglect as a Child				
No	3,063	85.9%	7.0%	4.4%
Yes	503	14.1%	7.8%	4.8%
N8. Primary Caregiver Has/Had a Mental Health Problem				
No	3,140	88.1%	7.3%	4.6%
Yes	426	11.9%	5.9%	3.5%
During the last 12 months	379	10.6%	5.5%	3.4%
Prior to the last 12 months	147	4.1%	5.4%	2.7%
N9. Primary Caregiver Has/Had an Drug and/or Alcohol Problem				
None/not applicable	2,393	67.1%	7.0%	4.5%
One or more apply	1,173	32.9%	7.3%	4.5%
During the last 12 months	910	25.5%	6.7%	4.3%
Prior to the last 12 months	564	15.8%	8.2%	4.4%

[13] Note that the risk assessments available for this analysis were completed using a previous version of the tool; therefore, items may differ from those on the current version.

Table B1

Risk Assessment Items by Delinquency Outcomes[13]

Characteristic	Total N	Total %	Subsequent Arrest	Subsequent Adjudication
Overall Sample	**3,566**	**100.0%**	**7.1%**	**4.5%**
N10. Primary Caregiver Has Criminal Arrest History				
No	2,675	75.0%	6.9%	4.3%
Yes	891	25.0%	7.7%	4.9%
N11. Characteristics of Children in Household				
Not applicable	3,112	87.3%	7.2%	4.5%
One or more present	454	12.7%	6.4%	4.2%
Developmental or physical disability	293	8.2%	6.1%	4.1%
Medically fragile/failure to thrive	64	1.8%	4.7%	4.7%
Positive toxicology screen at birth	115	3.2%	7.8%	3.5%
N12.Current Housing				
Not applicable	3,104	87.0%	7.2%	4.4%
One or more apply	462	13.0%	6.5%	4.8%
Physically unsafe	261	7.3%	4.2%	3.1%
Family homeless	216	6.1%	8.8%	6.5%
A1. Current Physical Abuse Complaint Is Substantiated				
No	2,642	74.1%	7.3%	4.4%
Yes	924	25.9%	6.5%	4.8%
A2. Number of Prior Abuse Investigations[a]				
None	1,704	47.8%	6.0%	4.2%
One	825	23.1%	7.3%	4.0%
Two or more	1,037	29.1%	8.8%	5.3%
A3. Household Has Previously Received CPS (Voluntary/Court-ordered)[a,b]				
No	2,735	76.7%	6.3%	3.9%
Yes	831	23.3%	10.0%	6.5%
A4. Prior Injury to a Child Resulting From Child Abuse/Neglect[a,b]				
No	3,271	91.7%	6.8%	4.2%
Yes	295	8.3%	10.2%	7.8%
A5. Primary Caregiver's Assessment of Incident[b]				
Not applicable	3,014	84.5%	6.8%	4.1%
One or more present	552	15.5%	9.1%	6.7%
Blames child[b]	421	11.8%	9.3%	7.1%
Justifies maltreatment of a child	233	6.5%	8.2%	6.4%
A6. Two or More Incidents of Domestic Violence in the Household[a,b]				
No	2,799	78.5%	7.6%	5.0%
Yes	767	21.5%	5.2%	2.6%

Table B1

Risk Assessment Items by Delinquency Outcomes[13]

Characteristic	Total N	Total %	Subsequent Arrest	Subsequent Adjudication
Overall Sample	**3,566**	**100.0%**	**7.1%**	**4.5%**
A7. Primary Caregiver Characteristics				
Not applicable	2,592	72.7%	6.8%	4.2%
One or more present	974	27.3%	8.1%	5.3%
Provides insufficient emotional/psychological support	638	17.9%	8.3%	5.6%
Employs excessive/inappropriate discipline	419	11.7%	7.9%	5.3%
Domineering caregiver	173	4.9%	8.1%	3.5%
A8. Primary Caregiver Has a History of Abuse or Neglect as a Child				
No	3,073	86.2%	7.1%	4.4%
Yes	493	13.8%	7.5%	4.9%
A9. One or More Caregiver(s) Has/Had a Drug and/or Alcohol Problem				
No	2,041	57.2%	7.4%	4.7%
Yes	1,525	42.8%	6.8%	4.3%
Primary—during last 12 months	889	24.9%	7.3%	4.9%
Secondary—during last 12 months	646	18.1%	5.6%	3.9%
Primary—prior to last 12 months	558	15.6%	8.8%	5.4%
Secondary—prior to last 12 months[a]	358	10.0%	3.6%	2.5%
A10. Primary Caregiver Has a Criminal Arrest History				
No	2,717	76.2%	6.9%	4.4%
Yes	849	23.8%	7.8%	4.8%
A11. Characteristics of Children in Household[a,b]				
Not applicable	2,784	78.1%	6.1%	3.8%
One or more present	782	21.9%	10.7%	6.8%
Delinquency history[a,b]	188	5.3%	14.9%	11.2%
Developmental disability	210	5.9%	6.2%	4.3%
Mental health/behavioral problem[a,b]	502	14.1%	12.2%	7.0%

Note: [a] denotes significant relationship to subsequent arrest ($p \leq .05$) and [b] denotes the same for subsequent adjudication.

Table B2 Family/Child Needs by Delinquency Outcomes				
Family/Child Need	**Total N**	**Total %**	**Subsequent Arrest**	**Subsequent Adjudication**
Overall Sample	**3,566**	**100.0%**	**7.1%**	**4.5%**
Family: Substance Abuse/Use				
No	2,278	63.9%	7.7%	4.9%
Yes	1,288	36.1%	6.1%	3.8%
Family: Household Relationships				
No	2,054	57.6%	6.5%	4.2%
Yes	1,512	42.4%	7.9%	4.9%
Family: Domestic Violence[14,b]				
No	2,375	66.6%	7.5%	5.0%
Yes	1,189	33.4%	6.4%	3.4%
Family: Social Support System				
No	2,254	63.2%	7.0%	4.5%
Yes	1,312	36.8%	7.4%	4.5%
Family: Parenting Skills[a]				
No	1,422	39.9%	5.9%	3.9%
Yes	2,144	60.1%	7.9%	4.9%
Family: Mental Health/Coping Skills				
No	2,226	62.4%	7.0%	4.6%
Yes	1,340	37.6%	7.3%	4.3%
Family: Household History of Criminal Behavior or Child Abuse and Neglect[15]				
No	2,325	65.2%	7.0%	4.5%
Yes	1,239	34.7%	7.3%	4.5%
Family: Resource Management/Basic Needs				
No	2,638	74.0%	7.0%	4.4%
Yes	928	26.0%	7.4%	4.8%
Family: Cultural/Community[a]				
No	3,133	87.9%	7.0%	4.5%
Yes	433	12.1%	8.1%	4.6%
Family: Physical Health				
No	3,131	87.8%	7.2%	4.4%
Yes	435	12.2%	6.9%	5.1%

[14] This item was available only on older versions of the FSNA. Two of the FSNAs included in this analysis were completed on a more recent version; therefore, results of this item are not available for those assessments.

[15] This item was available only on older versions of the FSNA. Two of the FSNAs included in this analysis were completed on a more recent version; therefore, results of this item are not available for those assessments.

Table B2

Family/Child Needs by Delinquency Outcomes

Family/Child Need	Total N	Total %	Subsequent Arrest	Subsequent Adjudication
Overall Sample	**3,566**	**100.0%**	**7.1%**	**4.5%**
Family: Communication Skills[16]				
No	2,920	81.9%	6.7%	4.3%
Yes	644	18.1%	9.0%	5.3%
Child: Emotional/Behavioral[a,b]				
No	2,838	79.6%	5.7%	3.5%
Yes	728	20.4%	12.8%	8.5%
Child: Family Relationships[a,b]				
No	2,540	71.2%	5.6%	3.5%
Yes	1,026	28.8%	10.8%	6.9%
Child: Medical/Physical				
No	3,377	94.7%	7.0%	4.4%
Yes	189	5.3%	8.5%	5.8%
Child: Child Development				
No	3,316	93.0%	7.0%	4.3%
Yes	250	7.0%	9.2%	6.4%
Child: Cultural/Community Identity				
No	3,208	90.0%	6.9%	4.5%
Yes	358	10.0%	8.9%	4.7%
Child: Substance Abuse[a,b]				
No	3,499	98.1%	6.6%	4.1%
Yes	67	1.9%	34.3%	25.4%
Child: Education[a,b]				
No	2,798	78.5%	5.3%	3.2%
Yes	768	21.5%	13.8%	9.1%
Child: Peer/Adult Social Relationships[a,b]				
No	3,078	86.3%	6.3%	3.9%
Yes	488	13.7%	12.5%	8.2%
Child: Delinquent Behavior[a,b]				
No	3,278	91.9%	5.6%	3.3%
Yes	288	8.1%	25.0%	8.4%

Note: [a] denotes significant relationship to subsequent arrest ($p \leq .05$) and [b] denotes the same for subsequent adjudication.

[16] This item was available only on older versions of the FSNA. Two of the FSNAs included in this analysis were completed on a more recent version; therefore, results of this item are not available for those assessments.

Appendix C

Delinquency Screening Assessment Item Analysis

Table C

Delinquency Screening Assessment Item Analysis

Item	Sample Distribution		Subsequent Arrest				Subsequent Adjudication			
	N	%	N	%	Corr.	P Value	N	%	Corr.	P Value
Total Sample	**3,566**	**100.0%**	**254**	**7.1%**			**160**	**4.5%**		
R1. Prior Investigations for Abuse or Neglect					.086	.000			.074	.000
a. None	1,387	38.9%	63	4.5%			41	3.0%		
b. One or two	1,271	35.6%	100	7.9%			56	4.4%		
c. Three or more	908	25.5%	91	10.0%			63	6.9%		
R2. Prior CPS Service Cases					.075	.000			.069	.000
a. None	2,699	75.7%	165	6.1%			101	3.7%		
b. One	666	18.7%	63	9.5%			41	6.2%		
c. Two or more	201	5.6%	26	12.9%			18	9.0%		
R3. Prior Injury to a Child Resulting From CA/N					.036	.017			.048	.002
a. No	3,271	91.7%	224	6.8%			137	4.2%		
b. Yes	295	8.3%	30	10.2%			23	7.8%		
R4. Child Was Placed in A Group Home as a Result of Current Investigation					.085	.000			.087	.000
a. No	3,514	98.5%	241	6.9%			150	4.3%		
b. Yes	52	1.5%	13	25.0%			10	19.2%		
R5. Child Age at Time of CPS Referral					.247	.000			.203	.000
a. 7 to 10	1,674	46.9%	13	0.8%			6	0.4%		
b. 11 or 12	807	22.6%	74	9.2%			45	5.6%		
c. 13 or older	1,085	30.4%	167	15.4%			109	10.0%		
R6. Child Gender					.084	.000			.071	.000
a. Female	1,857	52.1%	94	5.1%			57	3.1%		
b. Male	1,709	47.9%	160	9.4%			103	6.0%		
R7. Child Substance Use/Abuse					.146	.000			.140	.000
a. No	3,499	98.1%	231	6.6%			143	4.1%		
b. Yes	67	1.9%	23	34.3%			17	25.4%		
R8. Child Academic Difficulty					.136	.000			.117	.000
a. No	2,798	78.5%	148	5.3%			90	3.2%		
b. Yes	768	21.5%	106	13.8%			70	9.1%		
R9. Child Past/Current Delinquency					.206	.000			.199	.000
a. No	3,278	91.9%	182	5.6%			107	3.3%		
b. Yes	288	8.1%	72	25.0%			53	18.4%		
R10. Child Mental Health/Behavioral Issue					.079	.000			.049	.002
a. No	3,064	85.9%	193	6.3%			125	4.1%		
b. Yes	502	14.1%	61	12.2%			35	7.0%		

Appendix D

Additional Sample Information

Table D1

Family/Child Needs Identified by Timeliness of Family Strengths and Needs Assessment to Case Opening (N = 4,003)

Family/Child Need	Need Identified %	
	FSNA Completed Within 120 Days of Case Opening	FSNA Completed More Than 120 Days Following Case Opening
Family: Substance Abuse/Use	36.1%	19.9%
Family: Household Relationships	42.4%	19.2%
Family: Domestic Violence	33.4%	15.8%
Family: Social Support System	36.8%	19.7%
Family: Parenting Skills	60.1%	30.2%
Family: Mental Health/Coping Skills	37.6%	27.7%
Family: Household History of Criminal Behavior or Child Abuse and Neglect	34.8%	23.7%
Family: Resource Management/Basic Needs	26.0%	18.3%
Family: Cultural/Community Identity	12.1%	8.9%
Family: Physical Health	12.2%	6.4%
Family: Communication Skills	18.1%	15.3%
Child: Emotional/Behavioral	20.4%	13.0%
Child: Family Relationships	28.8%	14.2%
Child: Medical/Physical	5.3%	2.3%
Child: Child Development	7.0%	5.9%
Child: Cultural/Community Identity	10.0%	3.4%
Child: Substance Abuse	1.9%	1.4%
Child: Education	21.5%	22.0%
Child: Peer/Adult Social Relationships	13.7%	11.4%
Child: Delinquent Behavior	8.1%	7.8%

Note that the N size for this table is larger than the sample because it was used to determine which cases to exclude.

Table D2

Screening Classification by Delinquency Outcomes
Children Excluded From Study Sample Due to
Arrest in Los Angeles County Prior to Sample Case

Screening Level	Sample Distribution		Delinquency Outcomes During a Standardized Three-year Follow-up Period	
	N	%	Subsequent Arrest	Subsequent Adjudication
Low	6	4.8%	33.3%	33.3%
Moderate	47	37.9%	46.8%	29.8%
High	71	57.3%	70.4%	50.7%
Total Sample	**124**	**100.0%**	**59.7%**	**41.9%**

Appendix E

SDM® Delinquency Screening Assessment Item Definitions

LOS ANGELES COUNTY DEPARTMENT OF CHILDREN AND FAMILY SERVICES SDM® DELINQUENCY SCREENING ASSESSMENT ITEM DEFINITIONS

R1. Prior investigations for abuse or neglect (only child currently being assessed)
Score the appropriate amount based on the number of investigations prior to the investigation that resulted in the current case opening, in which the child being assessed was involved.

a. Score 0 if there were no prior investigations involving the child being assessed (do not include referrals that were not assigned for investigation).

b. Score 1 if there were one or two prior investigations involving the child being assessed (do not include referrals that were not assigned for investigation).

c. Score 2 if there were three or more prior investigations involving the child being assessed (do not include referrals that were not assigned for investigation).

R2. Prior CPS services (only child currently being assessed)
Score the appropriate amount based on the number of new service cases opened for this child prior to the investigation that led to the current new case opening. (Note: If a prior investigation results in a disposition of "continue existing case," the original case opening would be considered a prior service case.)

a. Score 0 if there were no prior open cases for the child being assessed.

b. Score 1 if there was one prior open case for the child being assessed.

c. Score 2 if there were two or more prior open cases for the child being assessed.

R3. Prior injury to any child in the home resulting from child abuse/neglect
Note that this item pertains to any child in the home, including the child for whom this assessment is being completed or any other children residing in the home.

a. Score 0 if no child(ren) in the home sustained an injury due to child abuse/neglect.

b. Score 1 if any child(ren) in the home sustained an injury resulting from abuse and/or neglect prior to the investigation that resulted in the current new case opening. Injury sustained as a result of abuse or neglect may range from bruises, cuts, and welts to an injury that requires medical treatment or hospitalization, such as a bone fracture or burn.

If one or more child(ren) in the household were previously injured, indicate whether it was the child being assessed and/or another child in the household.

R4. Child was placed in a group home as a result of investigation that led to current case

a. Score 0 if the child being assessed has not been placed as a result of the investigation that led to the current case opening, or if the child being assessed has been placed but in a setting other than a group home.

b. Score 1 if the child being assessed was placed in a group home as a result of the investigation that led to the current case opening. The group home placement may have been the initial placement type or a secondary placement type.

R5. Child age at time of CPS referral that led to current case

Base response on the child's age at the time of the CPS referral that led to the current case opening.

a. Score -1 if the child being assessed was age 7 to 10 at the time of the CPS referral. (Note: A child is considered 10 until his/her 11th birthday.)

b. Score 0 if the child being assessed was 11 or 12 years old at the time of the CPS referral.

c. Score 1 if the child being assessed was 13 or older at the time of the CPS referral.

R6. Child gender

a. Score 0 if the child being assessed is female.

b. Score 1 if the child being assessed is male.

R7. Child substance use/abuse (only child currently being assessed)

a. Answer "no" if the child does not use alcohol or other drugs and the child avoids peer/adult social activities involving alcohol or other drugs, and/or if the child has experimented with alcohol or other drugs but there is no indication of sustained use and the child has no demonstrated history or current problems related to substance use.

b. Answer "yes" if child's substance use (alcohol and/or drug) is regular and beyond experimentation, and/or results in disruptive behavior and discord in school/community/family/work relationships. Use may have broadened to include multiple drugs.

R8. Child academic difficulty (only child currently being assessed)

a. Answer "no" if the child is working at or above grade level, and/or is meeting or exceeding the expectations of the specific educational plan.

b. Answer "yes" if the child is working below grade level in one or more academic subject areas and/or child is struggling to meet the goals of the existing educational plan and/or child is school age and is not attending school on a regular basis.

R9. Child past or current delinquency (only child currently being assessed)

a. Answer "no" if the child has no arrest history and there are no other indications of criminal behaviors, OR if the child has successfully completed probation and there has been no criminal behavior in the past two years.

b. Answer "yes" if the child is or has engaged in occasional criminal behavior (nonviolent or violent) and/or was arrested, incarcerated, or placed on probation within the past two years.

R10. Child mental health/behavioral issue (any child in household)

a. Select "no" if no children have a mental health or behavioral problem.

b. Select "yes" if any child in the household has mental health of behavioral problems not related to a physical or developmental disability. This could be indicated by a DSM Axis 1 diagnosis, receiving mental health treatment, attendance in a special classroom because of behavioral problems, or currently taking prescribed psychoactive medication.

If one or more child(ren) in the household have a mental health issue, indicate whether it is the child being assessed and/or another child in the household.